

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Armstrong, et al.

Serial No.: 09/835,699 Case No.: 19258CC

Art Unit: 1631

Filed: April 16, 2001

Examiner:
James Martinell

For: POLYNUCLEOTIDE HERPES VIRUS VACCINE

#11
Plunkett
4/15/03

Assistant Commissioner of Patents
Washington, D.C. 20231

DECLARATION, 37 C.F.R. §1.132

CERTIFICATE OF MAILING UNDER 37 C.F.R. 1.8(a)
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MERCK & CO., INC.

BY: *J. Marshall*
REGISTRATION NO.: 36,525
DATE: April 2, 2003

Sir:

1. This Declaration is to establish completion of the claimed invention in United States Patent Application No. 09/835,699 (hereinafter the "Application"), at a date prior to September 1, 1993, the alleged effective date of the publication of Cox et al. (1993, Bovine Herpes 1: Immune Responses in Mice and Cattle Injected with Plasmid DNA, *J. Virol.* 67:5664-5667). Cox et al. was cited as a prior art reference by the Examiner in the Office Action issued October 2, 2002.

Considered
4/2/03

2. The persons making this declaration are the joint inventors of the Application: Marcy E. Armstrong, Robert D. Keyes, John A. Lewis, Margaret A. Liu and William L. McClements.

3. To establish the date of completion of the claimed invention of the Application, three exhibits, Exhibits A-C, are submitted as evidence of conception and

reduction to practice of a polynucleotide vaccine to herpes simplex virus infection. Redacted photocopies of Notebook No. 13856 pages 13-14 from co-inventor William L. McClements are submitted as Exhibit A. Redacted photocopies of three additional pages attached to Notebook No. 13856 pages 13-14 from co-inventor William L. McClements are submitted as Exhibit B. A redacted copy of a fourth additional page attached to Notebook No. 13856 pages 13-14 from co-inventor William L. McClements is submitted as Exhibit C. The submitted exhibits, Exhibits A-C, are true copies of Notebook No. 13856 pages 13-14, as well as the four pages attached thereto.

4. Redacted notebook pages 13-14 from Notebook No. 13856 describe the HSV-2 (Curtis) challenge of mice that were previously immunized with two doses of gD plasmid DNA (V1J:gD) or controls, as exemplified in Example 8 in the specification of the Application. Copies of these notebook pages are attached as Exhibit A. The mice were challenged through IP injections with 10^4 pfu of virus and observed for illness and death for 21 days. The percent of mice that were alive in each group of mice injected (groups A-J) at each day of observation (day 1 through day 21) were recorded in a summary data chart on pages 13-14. Page 13 also directs the reader to the "attached table for actual recordings" of the percent of mice alive at the time of observation. That data table is submitted in this declaration as Exhibit B, representing three pages that are attached to Notebook No. 13856 pages 13-14.

5. Exhibit B represents three pages attached to Notebook No. 13856 pages 13-14, entitled "Worksheet1 – HSV Challenge of Balb/c mice immunized with V1J:gD:10," and contains a data table wherein William L. McClements made the actual recordings of the results of the challenge experiment of V1J:gD injected mice described on notebook pages 13-14. Column 2 of the table displays the identification tag number of each mouse challenged with HSV-2, 10 mice per group (group A-I). The table also provides a description of each group of mice challenged, representing mice that were previously injected with a specific quantity of V1J:gD plasmid DNA, or saline as a control. The groups, as described on the data worksheet, are as follows:

- Group J: saline injected
- Group I: injected with $0.78\mu\text{g}$ V1J:gD
- Group H: injected with $1.56\mu\text{g}$ V1J:gD
- Group G: injected with $3.13\mu\text{g}$ V1J:gD

- Group F: injected with 6.25 μ g V1J:gD
- Group E: injected with 12.5 μ g V1J:gD
- Group D: injected with 25 μ g V1J:gD
- Group C: injected with 50 μ g V1J:gD
- Group B: injected with 100 μ g V1J:gD
- Group A: injected with 200 μ g V1J:gD

Row 2 of the table represents the 22 observation points tested in this challenge experiment (day 1 through day 21).

6. Exhibit C represents a fourth page attached to Notebook No. 13856 pages 13-14, entitled "HSV2 Challenge of V1J:gD DNA treated mice," and contains a graph showing the results of the challenge experiment of V1J:gD injected mice described on notebook pages 13-14. This graph was generated using the actual data recorded on the first, second and third pages of Exhibit B, which is summarized in the data chart on pages 13-14 of Notebook No. 13856. The graph was reproduced in the specification of the Application as Figure 4. As depicted in the graph, by the 14th day of observation, 9 of the 10 control (saline injected) animals died. This corresponds to the summarized data chart on Notebook No. 13856 pages 13-14 (see observation day 14 of column J indicating that 10% of the control mice were alive). In comparison, 3 of the DNA treated animals died as of the 14th day of observation, one each of the animals previously injected with 0.78 μ g, 1.56 μ g, and 50 μ g of V1J:gD DNA. This corresponds to the summarized data chart on Notebook No. 13856 pages 13-14 (see columns J, H and C, respectively).

7. Joint inventors, Marcy E. Armstrong, Robert D. Keyes, John A. Lewis, Margaret A. Liu and William L. McClements hereby declare that the data presented in the redacted photocopies of Notebook No. 13856 pages 13-14, and the four pages attached thereto, were conceived and reduced to practice and entered into a Merck & Co. notebook at least prior to September 1, 1993, the alleged effective date of Cox et al. (1993, Bovine Herpes 1: Immune Reponses in Mice and Cattle Injected with Plasmid DNA, *J. Virol.* 67:5664-5667).

8. This declaration is submitted prior to final rejection.

9. As a person signing below:

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

10. Inventors:

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